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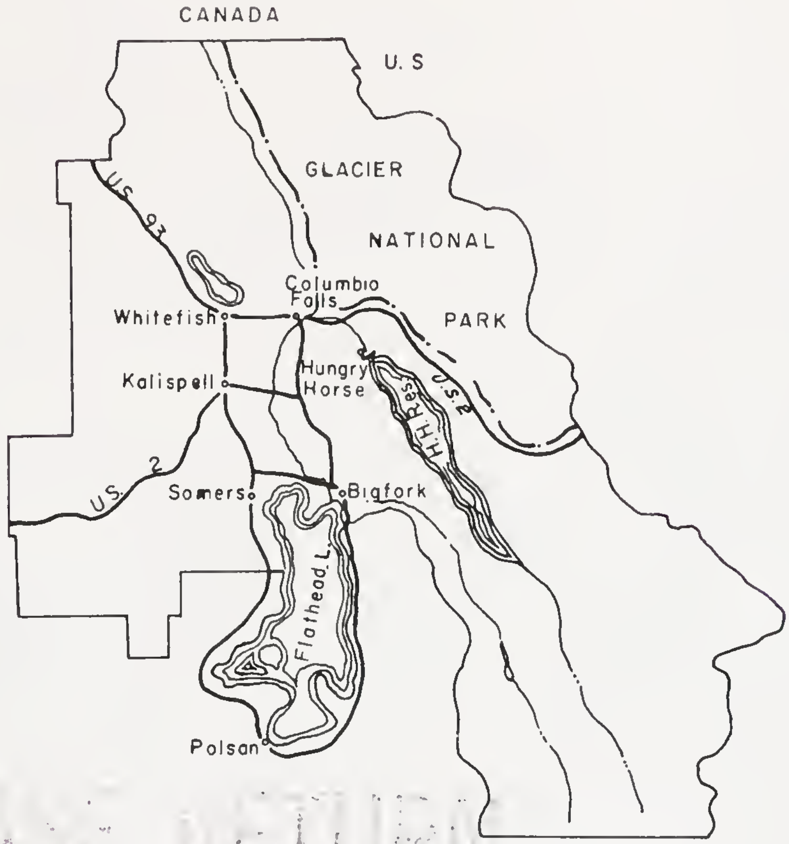
LAND AND WATER



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WHY THE INVENTORY

Although we in the United States are blessed with abundance, our resources are not inexhaustible. They must be cared for and used wisely so that their productiveness will continue. To assure their wise use, we need basic facts about physical problems of conservation; their magnitude, and relative urgency. This inventory contains some of those basic facts. It will be modified, added to, and kept current with advances in technology and increased knowledge.

HOW THE INVENTORY WAS MADE

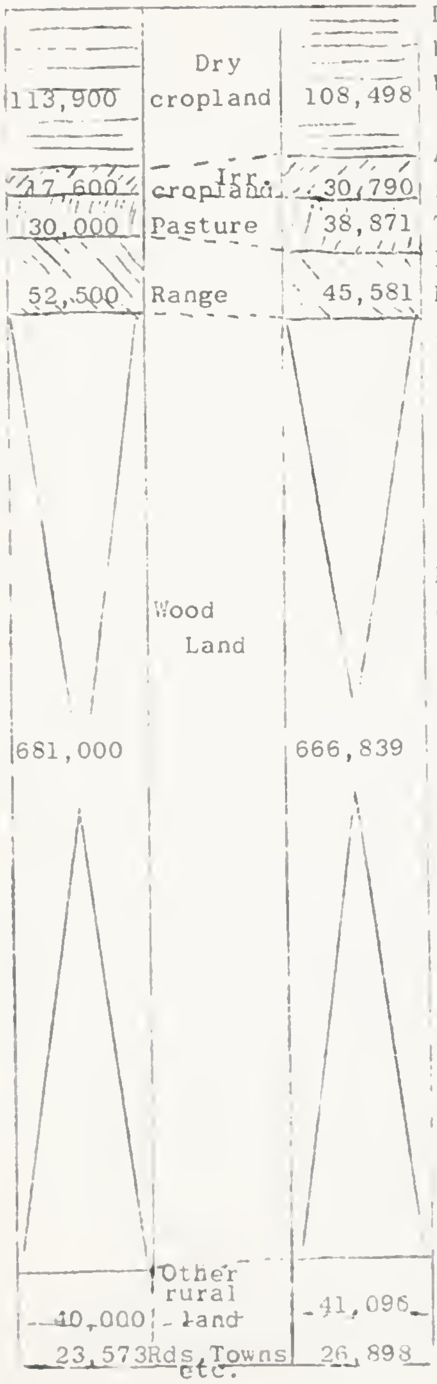
The inventory was initiated in 1957, as part of a national inventory authorized by the Secretary of Agriculture. It was based upon soil surveys of 160 acre samples drawn at random. The soil survey samples were expanded to represent actual conditions in the county. The county committee used this information along with their knowledge of the county to develop estimates of expected changes by 1975.

WHO DID IT?

The inventory and this leaflet was prepared by the Flathead County Conservation Needs Committee. The Committee consisted of representatives of the County Extension Service, Agriculture Conservation Program Service, U. S. Forest Service, Montana State Forestry Department, National Park Service, Montana State Fish and Game Department, Farmers Home Administration, County Committeeman of Agriculture Conservation Program Services and Soil Conservation Service, which acted as Chairman.

In Flathead County, there are	3,313,280 Acres
The area of Federal land is	2,354,707 Acres
Towns, road, water, etc. amount	23,573 Acres
This leaves a conservation responsibility	935,000 Acres

LAND USE TODAY AND EXPECTED BY 1975



Dry cropland will decrease. Marginal cropland will be seeded for hay and pasture. New irrigation will be developed on dry cropland.

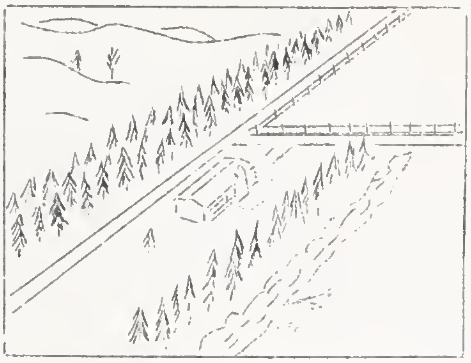
Additional acres will be placed under irrigation by individuals.

Tame pasture will be increased by retirement of cropland and some clearer better forested land.

Rangeland will be decreased through better lands going into cropland use.

Non federal forest acres will decrease slightly. Some of the better lands will be cleared and converted to farmland. Some will be lost to highway and recreational use. Reforestation will offset part of this loss.

Land will be taken out of farms for rural living, highway and other publis uses.

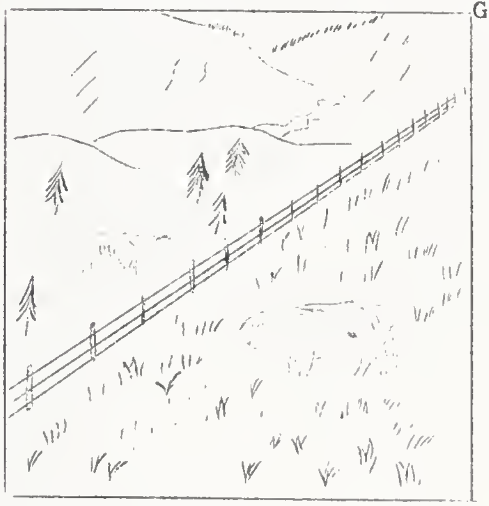


DRY CROPLAND

39% or 42,234 acres are adequately treated	33,448 Acres
61% or 66,264 acres needs treatment	
a. Erosion is the dominate problem on (strip cropping, stubble mulch, erosion structures, grassed waterways)	
b. Excess water is dominate problem on (Drainage, dikes, and channel improvement)	6,784 Acres
c. Unfavorable soil is dominate problem (Crop rotation, fertilizers, grass & legume seeding)	26,032 Acres

IRRIGATED CROPLAND

64% or 19,675 acres are adequately treated	
36% or 11,115 acres needs treatment	
a. Erosion is dominate problem	5,912 Acres
b. Excess water is dominate problem	523 Acres
c. Unfavorable soil is dominate problem	4,720 Acres



GRASSLAND

22% or 18,452 acres are adequately treated	
78% or 66,000 acres needs treatment	
a. Needs reseeding	17,871 Acres
b. Improvement (deferred grazing & brush control)	19,129 Acres
c. Over-grazed (proper use and better distribution)	22,000 Acres
d. Needs stockwater development	6,500 Acres
e. Protection from fire	56,000 Acres
f. Severe erosion problem	7,000 Acres
g. Rodent control	6,800 Acres
h. Encroachment of plants	10,000 Acres
i. Insects and disease	5,400 Acres
j. Excess water	8,300 Acres
k. Needs water conservation	11,000 Acres

WOODLAND

WOODLAND	666,839 Acres
a. Needs establishment (planting)	257,600 Acres
b. Needs stand improvement	333,400 Acres
c. Protection from fire	533,472 Acres
d. Insect and disease control	533,839 Acres
e. Protection from animals	75,000 Acres
f. Erosion Control	4,000 Acres
g. Establishment of windbreaks and shelterbelts (25 miles)	150 Acres

LAND USE CHANGE BY CAPABILITIES

Land Capability	Land Use 1958	LAND USE CHANGE BY 1975						
		Cropland		Grassland				Out of Agriculture Use
CLASS	Irrigated Cropland	Irrigated	Dry	Range	Pasture	Woodland	Other	
I	6,895	6,890	-	-	-	-	5	-
II	8,783	8,768	-	-	-	-	15	-
III	1,216	1,216	-	-	-	-	-	-
IV	706	706	-	-	-	-	-	-
	Dry Cropland							
I	12,822	1,800	10,920	-	-	72	30	-
II	44,701	5,700	37,571	-	1,000	220	160	50
III	21,678	3,390	17,538	-	-	654	96	-
IV	24,861	500	19,287	-	4,516	528	30	-
V	2,069	-	2,069	-	-	-	-	-
VI	7,769	1,200	5,549	-	950	10	10	50
	Range							
I	1,449	220	1,229	-	-	-	-	-
II	2,652	-	600	1,879	173	-	-	-
III	14,144	-	3,795	10,247	82	-	20	-
IV	7,106	-	300	6,806	-	-	-	-
V	8,438	-	-	8,438	-	-	-	-
VI	17,825	400	-	17,325	-	100	-	-
VII	886	-	-	886	-	-	-	-
	Pasture*				*Incl. Irr. Native			
II	3,965	-	300	-	3,645	-	20	-
III	2,009	-	-	-	2,009	-	-	-
IV	9,915	-	500	-	9,405	-	10	-
V	9,450	-	-	-	9,450	-	-	-
VI	4,661	-	-	-	4,641	-	20	-
	Woodland							
I	1,214	-	400	-	-	814	-	-
II	13,263	-	4,250	-	2,000	6,448	440	125
III	39,050	-	3,800	-	1,000	34,010	90	150
IV	23,888	-	390	-	-	23,348	50	100
V	10,917	-	-	-	-	10,917	-	-
VI	442,050	-	-	-	-	439,950	100	2,000
VII	150,618	-	-	-	-	149,768	-	850
	Other							
I	29	-	-	-	-	-	29	-
II	224	-	-	-	-	-	224	-
III	214	-	-	-	-	-	214	-
IV	127	-	-	-	-	-	127	-
V	74	-	-	-	-	-	74	-
VI	154	-	-	-	-	-	154	-
VII	27	-	-	-	-	-	27	-
VIII	39,151	-	-	-	-	-	39,151	-
TOTALS	935,000	30,790	108,498	45,581	38,871	666,839	41,096	3,325

LAND CAPABILITY DEFINITION

LAND SUITABLE FOR CULTIVATION

Class I - Very good land with no limitations. Nearly level and highly productive with good farming methods.

Class II - Good land with some limitations. Usually gently sloping or slightly adverse soil and climatic conditions. Can be farmed safely with easily applied conservation practices.

Class III - Land with moderate to severe limitations. Usually moderately sloping. Subject to erosion due to slope or wind. May have adverse soil, wetness, or climatic conditions. Can be farmed safely with intensive conservation practices.

Class IV - Land with severe to very severe limitations. Generally steep slopes. May have severe adverse soil, wetness, or climatic conditions. Can be farmed with very intense conservation practices and very careful management.

LAND NOT SUITABLE FOR CULTIVATION

Class V - Land with very little or no erosion hazard but having limitations such as wetness or stoniness that prohibits cultivation. Need only good management to use safely.

Class VI - Land having severe continuing limitations that make them generally unsuitable to cultivation. Steep slopes, severe erosion hazards, stoniness, excessive wetness, soil conditions or severe climate are limiting factors.

Class VII - Land having very severe limitations that make them unsuited to cultivation. Very steep slopes, very severe erosion hazard, very adverse soil and climatic conditions are limiting factors.

Class VIII - Land having limitations that preclude their use for commercial plant production and restricts their use to recreation, wildlife, watershed protection or esthetic purposes.

WATERSHED INVENTORY

What was done: Disregarding county or other political divisions, the natural drainages were divided into units of 250,000 acres or less. Each subdivision was studied by the committee to determine treatment needs and possible developments which might be met through the small watershed program or by other kinds of local group action.

What it revealed: The watershed areas are mainly forested land. There is a great recreational potential in these areas and they are being developed.

The watershed which covers most of the cropland and range needs land treatment for erosion control. Action will probably be taken by individuals and small groups to control the erosion and develop irrigation. Some action has already taken place on Haskell Creek. Only the Stillwater river in this watershed has possibilities through the small watershed programs to accomplish flood prevention. Early project action is not anticipated.

The Ashley Creek and Smith Lake watershed needs some land treatment along with channel improvement and irrigation reorganization. Some action is anticipated in the foreseeable future.

The other watersheds have small erosion problems due to spring run-off and spring flood damage. No action anticipated except by individuals and small groups in normal logging operations in the areas.

SUPPLEMENT OF PRACTICES
CONSERVATION NEEDS
FLATHEAD COUNTY - KALISPELL, MONTANA

Practice	Unit	Total Needs	Est. on Land 6/30/62	Remaining to be Done
Irrigated Cropland				
Irrigation Canals or Laterals	ft.	150,000	14,580	135,420
Irrigation Field Ditches	ft.	250,000	113,116	136,884
Irrigation Ditch or Canal Lining	ft.	15,000	0	15,000
Irrigation Reservoirs	no.	60	28	32
Irrigation Systems, Sprinkler	no.	415	215	200
Irrigation Systems, Surface and Subsurface	no.	100	21	79
Irrigation Pipelines	ft.	300,000	6,810	293,190
Irrigation Land Leveling	ac.	200	0	200
Irrigation Water Management	ac.	39,790	1,475	38,315
Conservation Cropping Systems	ac.	30,790	5,000	25,790
Drainage, Main or Lateral	ft.	1,561,000	534,780	1,026,220
Tile Drains	ft.	150,000	40,044	109,956
Structures for Water Control	no.	600	94	506
Ditch Bank Leveling and/or Seeding	ft.	1,750,000	63,256	1,686,744
Diversion Dams	no.	50	3	47
Non-Irrigated Cropland				
Wind Stripcropping	ac.	15,000	2,013	12,987
Stubble Mulching	ac.	108,498	15,769	92,729
Conservation Cropping Systems	ac.	108,498	33,766	74,732
Grass Waterways or Outlets	ac.	200	8	192
Field Windbreaks	ft.	300,000	41,184	258,816
Range				
Deferred Grazing & Range Rotation	ac.	43,000	6,350	36,650
Proper Use	ac.	45,581	8,078	37,503
Brush & Weed Control	ac.	2,620	1,320	1,300
Range Seeding	ac.	880	80	800
Livestock Water Developments	no.	100	53	47
Permanent Fencing	mi.	562	451	111
Fire Control	ac.	45,581	45,581	0
Insect Control	ac.	5,400	2,500	2,900

Practice	Unit	Total Needs	Est. on Land 6/30/62	Remaining to be Done
Forest and Woodland				
Woodland Seeding & Planting	ac.	117,212	5,282	111,930
Woodland Pruning	ac.	15,000	2,012	12,988
Woodland Thinning	ac.	84,130	8,550	75,580
Woodland Intermediate Cutting	ac.	164,645	100	164,545
Woodland Proper Grazing	ac.	176,105	13,057	163,048
Woodland Harvest Cutting	ac.	502,194	282,580	219,614
Protection, Fire	ac.	666,839	666,839	0
Protection, Insect & Disease	ac.	181,584	130,584	51,000
Protection, Animals	ac.	40,350	30,270	10,080
Erosion Control	ac.	4,000	1,000	3,000
Permanent Pasture and Hayland				
Pasture & Hayland Planting	ac.	20,000	6,498	13,502
Proper Pasture Use	ac.	25,000	10,000	15,000
Pasture & Hayland Renovation	ac.	18,870	0	18,870
General				
Farmstead & Feedlot Windbreaks	ac.	400	50	350
Ponds & Dugouts	no.	140	28	112
Land Clearing	ac.	16,000	4,653	11,347
Grade Stabilization Structures	no.	300	39	261
Wells	no.	160	39	121
Wildlife Habitat Improvement and Preservation	ac.	4,400	0	4,400
Fishpond Stocking Ponds	no.	75	30	45
Outdoor Recreation Development, Camp & Picnic	no.	207	52	155
Outdoor Recreation Development, Other	no.	103	88	15

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